

Remarks

The above Amendments and these Remarks are in reply to the Office Action mailed April 20, 2006. Claims 1 - 32 were examined and remain pending. Applicant has amended claim 31. Applicant respectfully requests reconsideration of all pending claims.

I. SUMMARY OF THE EXAMINER'S ACTIONS

- A. Claim 31 was objected to because of the following informalities: a lack of antecedent basis for the term "current steering transistor."
- B. Claims 1, 2, 4, 5, 13-15, 19, 20, 23 and 24 were rejected under 35 U.S.C. 102(b) as being anticipated by *Kong* (U.S. Patent No. 5,859,548).
- C. Claims 26, 27, 30, and 31 were rejected under 35 U.S.C. 102(b) as being anticipated by *Rovell* (U.S. Patent No. 4,247,791).
- D. Claim 32 was indicated as allowable over the prior art.
- E. Claims 3, 6-12, 16-18, 21-22, 25, and 28-29 were objected to as being dependent upon a rejected base claim, but are considered to have allowable subject matter.

II. SUMMARY OF APPLICANT'S AMENDMENTS

Applicant has amended claim 31 to change the dependency thereof.

III. REMARKS

A. Informality Of Claim 31

Claim 31 has been amended to depend from claim 30, thereby providing clear antecedent basis for the term "current steering transistor"

B. Rejections Based On Kong

The Examiner rejected independent apparatus claims 1 and 13 as being anticipated by the patent to *Kong*. However, applicant respectfully traverses the rejection.

The Examiner states that *Kong* shows in Fig. 5B an actuation circuit having a first output /D. (Action at p. 2) However, the Examiner is mistaken in characterizing /D as an output of the actuation circuit. Further, the basis for his erroneous conclusion is set forth in the action, to wit: “since there is an inherent inverting circuit between D and /D.” (*Id.*) **The fact that an inverter is used to obtain /D from D does not magically transform /D into an output of the actuation circuit.** Many logic circuits require that complementary signal levels be available for proper circuit operation. Further, the cited reference explicitly notes that D and /D are used to drive transistors (“*the circuit of Fig. 5(a) uses only two transistors driven by a pair of complementary signals*”) (*Kong* at Col. 8:53-54). Thus, D and /D are both considered inputs for the purpose of the circuit description in the cited reference, and therefore, the Examiner’s assertion does not find support in the citation, and in fact, the citation teaches away from it.

With regard to independent claims 1 and 13, since /D is not an output of an actuation circuit, *Kong* does not teach or suggest “*a current sink coupled to the first output*” as claimed. For that reason, both claim 1 and claim 13 are considered patentable over the cited reference. Claims 2, 4 and 5 depend from claim 1 and are considered patentable for the same reasons. Likewise, claims 14, 15 and 19 depend from claim 13 and are considered patentable for the same reasons.

The Examiner also rejected independent method claim 20 as being anticipated by the patent to *Kong*. However, applicant respectfully traverses the rejection.

The Examiner once again mistakenly characterizes /D as a first output. (See discussion above). For example, the Examiner reasons that a control current D is received and designated for

first output /D, and then actually provided to the first output through steering transistor TR1' when the output voltage is below a threshold. However, as a first matter, the applicant fails to see how D could become /D. More significantly, the circuit shown in Fig. 5B of *Kong* does not operate as suggested by the Examiner. (See col. 9:8-16). When the potential on input lines D and /D is about $\frac{1}{2}V_{dd}$, transistor TR1' is off and transistor TR2' is on. As a result, the output OUT' goes to a low level. Thus, contrary to the Examiner's assertion, the current at input D is not provided to input /D when the output OUT' goes low. Therefore, *Kong* does not teach or suggest "*receiving a control current designated for said first output*" as claimed, nor does *Kong* does not teach or suggest "*steering the control current provided to said first output*" as claimed. For those reasons, claim 20 is considered patentable over the cited reference. Claims 23 and 24 depend from claim 20 and are considered patentable for the same reasons.

C. Rejections Based On *Rovell*

The Examiner rejected independent apparatus claim 26 as being anticipated by the patent to *Rovell*. However, applicant respectfully traverses the rejection.

Specifically, the Examiner asserts that transistor Q8 in Fig. 2 of *Rovell* is a first current sink as claimed and that transistor Q10 is a second current sink as claimed. However, applicant respectfully disagrees. Each of these transistors forms a portion of an inverter: transistor Q8 is part of inverter 20, and transistor Q10 is part of inverter 22. Further, while the lower NPN transistor on a typical inverter does act as a current sink under certain conditions, and in fact, transistors Q8 and Q10 do act as current sinks during the active period *t2*, applicant notes that these sinks are not enabled by a signal at the respective inputs – Q8 is not enabled by the BIT line, and Q10 is not

enabled by the /BIT line. The strobe signal must be high in order for transistors Q5 and Q6 to conduct. When transistor Q6 does conduct, transistors Q8 and Q10 have a direct path to ground and act as a current sink. However, as noted, this only happens when the strobe signal goes high, and the strobe signal is thus required to enable the current sink action. Thus, applicant submits that the reference does not teach or suggest “*a first current sink . . . enabled by a signal at said first input*” nor does it teach or suggest “*a second current sink . . . enabled by a signal at said second input*.”

For those reasons, claim 26 is considered patentable over the cited reference. Claims 27, 30 and 31 depend from claim 26 and are considered patentable for the same reasons.

D. Other Matters

Since the outstanding office action includes non-final rejections, applicant has not amended claims 3, 6-12, 16-18, 21-22, 25, and 28-29, which were objected to as being dependent upon a rejected base claim. Applicant argues above that the respective independent claims are patentable over the cited references, and therefore these dependent claims should be considered patentable as well.

IV. CONCLUSION

Based on the above amendments and these remarks, reconsideration of all pending claims is respectfully requested.

The Examiner’s prompt attention to this matter is greatly appreciated. Should further questions remain, the Examiner is invited to contact the undersigned attorney by telephone.

The Commissioner is authorized to charge any underpayment or credit any overpayment to

Deposit Account No. 501826 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

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